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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,910	06/10/2008	Steven A. Boyd	GEN/034	6041

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EXAMINER	
ZAREK, PAUL E	

ART UNIT	PAPER NUMBER
1628	

MAIL DATE	DELIVERY MODE
11/20/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/593,910	BOYD ET AL.	
	Examiner	Art Unit	
	Paul Zarek	1628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *1* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5 and 7-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☒ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-3,5 and 7-27* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of the Claims

1. Claims 2, 3, 5, and 7-27 have been amended and Claims 4 and 6 have been cancelled by the Applicant in correspondence filed on 06/10/2009. Claims 1-3, 5, and 7-27 are currently pending.

Restrictions

2. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-3, 5, and 7-17, drawn to a compound of formula I where in none of R^1, R^2, R^3, and R^4 contain cyclic groups, R^5 and R^6 are -H, R^7 and R^8 are -H, alkyl, or haloalkyl, R^9 does not contain a cyclic group, antibody, polysaccharide, or peptide, R^a and R^b are -H or -OH, and R^c and R^d are -H.

Group II, claim(s) 1-3, 5, 7-4, 16, and 17, drawn to a compound of formula I where in none of R^1, R^2, R^3, and R^4 contain cyclic groups, R^5 and R^6 are -H, R^7 and R^8 are -H, alkyl, or haloalkyl, R^9 contains an antibody, R^a and R^b are -H or -OH, and R^c and R^d are -H.

Group III, claim(s) 1-3, 5, 7-4, 16, and 17, drawn to a compound of formula I where in none of R^1, R^2, R^3, and R^4 contain cyclic groups, R^5 and R^6 are -H, R^7 and R^8 are -H, alkyl, or haloalkyl, R^9 contains an polysaccharide, R^a and R^b are -H or -OH, and R^c and R^d are -H.

Group IV, claim(s) 1-3, 5, 7-4, 16, and 17, drawn to a compound of formula I where in none of R^1, R^2, R^3, and R^4 contain cyclic groups, R^5 and R^6 are -H, R^7 and R^8 are -H, alkyl, or haloalkyl, R^9 contains an peptide, R^a and R^b are -H or -OH, and R^c and R^d are -H.

Group V, claim(s) 1-3, 5, 7-4, 16, and 17, drawn to a compound of formula I not encompassed by any of Groups I-IV.

Group VI, claim(s) 18, drawn to a method of inhibiting transketolase activity in a biological sample or patient comprising contacting said biological sample or said patient with a compound of Group I.

Group VII, claim(s) 18, drawn to a method of inhibiting transketolase activity in a biological sample or patient comprising contacting said biological sample or said patient with a compound of Group II.

Group VIII, claim(s) 18, drawn to a method of inhibiting transketolase activity in a biological sample or patient comprising contacting said biological sample or said patient with a compound of Group III.

Group IX, claim(s) 18, drawn to a method of inhibiting transketolase activity in a biological sample or patient comprising contacting said biological sample or said patient with a compound of Group IV.

Group X, claim(s) 18, drawn to a method of inhibiting transketolase activity in a biological sample or patient comprising contacting said biological sample or said patient with a compound of Group V.

Group XI, claim(s) 19, drawn to a method of reducing levels of ribulose/ribose-5-phosphate in a cell comprising administration of a compound of Group I.

Group XII, claim(s) 19, drawn to a method reducing levels of ribulose/ribose-5-phosphate in a cell comprising administration of a compound of Group II.

Group XIII, claim(s) 19, drawn to a method of reducing levels of ribulose/ribose-5-phosphate in a cell comprising administration of a compound of Group III.

Group XIV, claim(s) 19, drawn to a method of reducing levels of ribulose/ribose-5-phosphate in a cell comprising administration of a compound of Group IV.

Group XV, claim(s) 19, drawn to a method of reducing levels of ribulose/ribose-5-phosphate in a cell comprising administration of a compound of Group V.

Group XVI, claim(s) 20, drawn to a method of inhibiting nucleic acid synthesis in a cell comprising administration of a compound of Group I.

Group XVII, claim(s) 20, drawn to a method of inhibiting nucleic acid synthesis in a cell comprising administration of a compound of Group II.

Group XVIII, claim(s) 20, drawn to a method of inhibiting nucleic acid synthesis in a cell comprising administration of a compound of Group III.

Group XIX, claim(s) 20, drawn to a method of inhibiting nucleic acid synthesis in a cell comprising administration of a compound of Group IV.

Group XX, claim(s) 20, drawn to a method of inhibiting nucleic acid synthesis in a cell comprising administration of a compound of Group V.

Group XXI, claim(s) 21, drawn to a method of inhibiting cell proliferation comprising administration of a compound of Group I.

Group XXII, claim(s) 21, drawn to a method of inhibiting cell proliferation comprising administration of a compound of Group II.

Group XXIII, claim(s) 21, drawn to a method of inhibiting cell proliferation comprising administration of a compound of Group III.

Group XXIV, claim(s) 21, drawn to a method of inhibiting cell proliferation comprising administration of a compound of Group IV.

Group XXV, claim(s) 21, drawn to a method of inhibiting cell proliferation comprising administration of a compound of Group V.

Group XXVI, claim(s) 22-27, drawn to a method of increasing apoptosis in a tumor cell or reducing tumor growth in a patient comprising administration of a compound of Group I.

Group XXVII, claim(s) 22-27, drawn to a method of increasing apoptosis in a tumor cell or reducing tumor growth in a patient comprising administration of a compound of Group II.

Group XXVIII, claim(s) 22-27, drawn to a method of increasing apoptosis in a tumor cell or reducing tumor growth in a patient comprising administration of a compound of Group III.

Group XXIX, claim(s) 22-27, drawn to a method of increasing apoptosis in a tumor cell or reducing tumor growth in a patient comprising administration of a compound of Group IV.

Group XXX, claim(s) 22-27, drawn to a method of increasing apoptosis in a tumor cell or reducing tumor growth in a patient comprising administration of a compound of Group V.

3. The inventions listed as Groups I-XXX do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the compounds of formula I do not possess unity of invention. The R^9 moiety can contain a chemical substituent (i.e. -C(O)H), an antibody, polysaccharide, or peptide. Chemical substituents and conjugated antibodies, polysaccharides, and peptides are distinct moieties that are not encompassed by the same invention. Thus, the invention as claimed lacks unity of invention.

Election of Species

4. This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows:

- Compound of formula I wherein the location and identity of R^1, R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R, R^o, R^a, R^b, R^c, R^d, M, Y, n, x, and y are specified.

Applicant is required, in reply to this action, to elect a single species to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

5. The claims are deemed to correspond to the species listed above in the following manner:

Groups I-V: Claims 2, 3, 5, and 7-15; and
Groups VI-XXX: none.

The following claim(s) are generic:

Groups I-V: Claims 1, 16, and 17;
Groups VI-X: Claim 18;
Groups XI-XV: Claim 19;
Groups XVI-XX: Claim 20;

Groups XXI-XXV: Claim 21; and,
Groups XXVI-XXX: Claims 22-27.

6. The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons: the compounds of formula I do not possess unity of invention. The R^9 moiety can contain a chemical substituent (i.e. -C(O)H), an antibody, polysaccharide, or peptide. Chemical substituents and conjugated antibodies, polysaccharides, and peptides are distinct moieties that are not encompassed by the same invention. Thus, the invention as claimed lacks unity of invention.

7. Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement may be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

8. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

9. The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and the product claims are subsequently found allowable, withdrawn process claims that depend from or otherwise require all the limitations of the allowable product claim will be considered for rejoinder. All claims directed to a nonelected

process invention must require all the limitations of an allowable product claim for that process invention to be rejoined.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103 and 112. Until all claims to the elected product are found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowable product claim will not be rejoined. See MPEP § 821.04(b). Additionally, in order to retain the right to rejoinder in accordance with the above policy, applicant is advised that the process claims should be amended during prosecution to require the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder**. Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Zarek whose telephone number is (571) 270-5754. The examiner can normally be reached on Monday-Thursday, 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brandon Fetterolf can be reached on (571) 272-2919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PEZ

/San-ming Hui/
Primary Examiner, Art Unit 1628